How Secret-Keeping Affects Perceived Network Segregation and Population Estimates

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Abstract

This article explores the effect of secret-keeping on social knowledge, social networks and attitudes. Social constructionists argue that individuals construct society and are in turn are constructed by it; conversation is the primary mechanism of this process. What scholars have ignored is that people keep secrets from each other. I show how prevalent and systematic secret-keeping is and how it disrupts this process of reality-making. The focus here is on network segregation. Americans perceive deep segregation within their social networks. Much of this segregation is due to actual segregation within networks – within families, workplaces, neighborhoods and volunteer associations. Some is due to secret-keeping. I document the diffusion of information two pieces of information, one concealable and stigmatized – an abortion – and one concealable and primarily not stigmatized – a miscarriage. I show that the abortion secret travels more slowly than the miscarriage secret. Further, the abortion secret is told to people who are already liberal on abortion and consistently directed away from people who are conservative toward abortion. Hence, conservatives are less likely to report knowing someone who has had an abortion and believe their network to be more segregated than it is. I then go on to discuss the implications for attitudes and social knowledge. As the first examination of the aggregate social effects of secret-keeping, I demonstrate its prevalence and its capacity to create systematic gaps between perceived and actual reality; these gaps of knowledge exist at places of social contestation and change as arenas of contestation do.

Acknowledgments:

This research was supported by the National Science Foundation Graduate Research Fellowship, DGE 0946797 and the National Science Foundation Doctoral Dissertation Improvement Grant, SES-1103078. I thank Michael Hout, Claude Fischer, Ronald Lee, Jane Mauldon, John Wilmoth, Amal Harrati and Maggie Frye for their assistance in the development of the survey instrument and for reading prior drafts.

Social networks substantively shape individuals' beliefs about politics, morality and society but members of social networks communicate their experiences and attitudes to one another in highly selective ways. This article describes one such mechanism of selective communication: secret keeping. Within social networks, members may conceal stigmatized behaviors or characteristics in an effort to maintain social identity and avoid social gaffes (Goffman 1956, 1959, 1986). With a representative sample survey of American adults, I document frequent and systematic secret-keeping with regard to the disclosure of a life experience that is subject to high levels of social approbation in comparison to one subject to low levels of social approbation.

People keep secrets from each other; they flaunt some qualities and hide others. Even the closest of intimates cannot know the full truth of another's life and character. What is concealed, however, is not random. Rather, individuals reveal what will put them in the best light, typically revealing characteristics that conform to established norms. When possible, they will conceal what may make them different (Goffman 1986, Simmel 1950). I demonstrate that through selective disclosure and secret-keeping confiders will "pass" in the presence of those who might be antagonistic to the truth and are "out" among those who will be receptive. This double-presentation is maintained by the confiders themselves and subsequent confidants.[1] Hence, multiple actors work to keep potentially damaging information channeled toward to the sympathetic and away from anyone who might receive the information poorly.

Through secret-keeping and selective disclosure, individuals *even within the same network* can experience varying levels of homophily, depending on the individual's own attitudes. Those who are already receptive to certain forms of diversity experience a

[1] I will refer to the individuals whom the secret is about as confiders; all individuals who hear the secret – either because they are told by the confider or someone else -- are confidants.

heterogenous network while those who are not receptive experience the same network as homophilous. Homophily is then not just a characteristic of a network but a characteristic of individual experience.

Individuals' attitudes determine whether they experience a heterogenous or homophilous social network, not through individuals choosing particular social networks but by alters in the network shaping the degree of segregation an individual perceives in her network. The results suggest that individuals can effectively live in networks tailored by others to avoid offense and rejection, thus blunting the extent to which attitude change can occur even within networks that are truly diverse.

The article begins with a review of the micro-sociology of secret-keeping. It then goes on to discuss how through a process of diffusion, individual instances of secret-telling and secret-keeping can aggregate such that an individual's attitudes will become determinant of her perceived social network diversity. In the empirical case presented below, I draw on the distinction between privacy and secrecy. Privacy is the concealment of something the broader society would consider legitimate; secrecy is the concealment of something considered illegitimate or potentially stigmatizing (Warren and Laslett 1977). I examine here whom American women and subsequent confidants tell about their abortions – a secret -- in comparison to their miscarriages – a private matter. I also investigate from whom they keep the miscarriages and abortions a secret. The article concludes with a discussion of the implications of patterned secret-keeping on public opinion, group polarization, and the sociology of knowledge.

SECRETS IN SOCIOLOGICAL THEORY: THE MICRO PHENOMENON OF MANAGING STIGMA

The existing sociological literature on secrets considers the interpersonal case. This is the building block that, as I show below, aggregates to a slowed and channeled diffusion of information. This process at its foundation is one where an individual anticipates how another will react to stigmatizing information and either shares it or conceals it accordingly. Individuals balance their need for disclosure with the social cost associated with revealing a stigmatized attribute.

Micro-sociologists opened the door to a sociology of secrets by identifying secrets as an impression management tactic, a tactic for coping with stigma. Georg Simmel pointed out that individuals do not reveal a representative subset of themselves. Rather they disclose "in relation to the listener and his understanding (Simmel 1950:314)." Erving Goffman discusses secrecy as a means of managing stigma. Stigma is a "deeply discrediting" attribute that "reduces man in our minds from a whole and usual person to a tainted, discounted one" (Goffman 1986:3). Stigma can propel secrecy; stigmatized individuals cultivate an image of themselves. "Passing and covering are involved…through which the individual exerts strategic control over the image of himself…stigma management is a general feature of society, wherever there are identity norms" (Goffman 1986:130). One feature of management is concealment: "because of the great rewards in being considered normal, almost all persons who are in a position to pass will do so on some occasion by intent" (Goffman 1986: 74). Stigma provides a motivation toward secrecy, a tactic by which to manage stigma.

Using these insights from the interpersonal case, I examine the effect secrets have on the aggregate diffusion process. When given the opportunity, individuals will conceal stigmatizing attributes and identities, not sharing their secrets at all or sharing them selectively. Confidants will do the same, working to protect the confider. This is a micro-phenomenon that has macro

implications. Diffusion theory illuminates the aggregation process that results in bias in perceived network segregation.

SECRETS IN THE AGGREGATE AND BIAS IN PERCEIVED NETWORK SEGREGATION

Diffusion Theory

Diffusion refers to the spread of information, ideas, innovations, attitudes and practices within a community or a social system. Insights from diffusion are helpful in understanding the macro phenomenon that results from the aggregation of many instances of secrets being shared, or kept. In particular, the diffusion literature provides tools by which to consider how the characteristics of the diffusing item affect overall diffusion.[2]

Rogers (2003) outlines two attributes of innovations that affect the diffusion process helpful for this study: observability and compatability. Observability describes how easily the item – be it behavior, information or a physical object – is observed or in this case, concealed. Compatibility is the degree to which an item is understood to be consistent with existing values, norms and practices. In this case, compatibility distinguishes between an item that is merely concealable – a private matter – and that which is concealable and stigmatizing – a secret. Strang and Soule note that items "that accord with cultural understandings of appropriate and effective action tend to diffuse more quickly than those that do not" (Strang & Soule 1998). Hence, a private matter, being compatible, would diffuse more quickly than a secret matter.

[2] There are important ways in which this case is not akin to diffusion and these should be noted at the start. The classical scholarship on diffusion theory involves the diffusion of innovations such as hybrid corn seeds (Ryan and Gross 1943) or doctors prescribing Tetracycline (Coleman et al. 1966). The case of personal secrets is unlike the diffusion of innovations because there is nothing here to adopt; in this sense it is most akin to the diffusion of notification (Ryan 2006). In the innovations case, individuals are exposed to an innovation and then either choose to adopt or not. Here, the story centers on exposure – once you are exposed to someone's secret, you have already been "infected."

Since the diffusion literature focuses on adoption, there is little empirical evidence or theoretical work discussing the mechanism of this slowing of diffusion. It is trivial, however, to see that the relevant mechanism is exposure. When a contagion is easily observed, as is the case in most empirical diffusion studies, whether an individual will become exposed is a function of prevalence in a particular community and network segregation. When the diffusing item is concealable, individuals control exposure of others; there must be a conscious act of exposure and this alone will slow the rate of diffusion. Concealment also makes available the opportunity to expose some and not others -- selectively expose. Selective exposure is attractive because a secret is stigmatized. As such, the dyad of the broadcaster and the potential recipient become relevant in the diffusion process, though the dyad is ignored in the most prominent diffusion models (e.g. Greve et al.'s 1995 modification of Strang and Tuma 1993).

Selective exposure will slow the diffusion of an unobservable, incompatible item and will channel that diffusion toward people who are anticipated to react well to it. Individuals harboring a secret – whether their own or someone else's – determine whether or not to share the secret with each potential confidant. They share it with people they think will respond well and keep it a secret from those who will not. The presence of anticipated stigma heightens the importance of the dyad for exposure.

The diffusion literature, though not a perfect fit for this case, provides insights by honing analytical focus on two characteristics of a secret: that it is unobservable and incompatible/stigmatized. Directing attention to these characteristics highlights under-theorized elements of diffusion models: the process of exposure[3] and the qualities specific to the dyad of the diffuser and the individual at risk of being exposed. This endeavor illustrates the effect of the

[3] Diffusion models, even those of secret matters such as birth control in pre-fertility transition communities (Rosero-Bixby and Casterline 1993), largely ignore exposure.

diffuser's concern about stigma on the probability of the unadopted being exposed to an unobservable item. This is tested using a comparison of two unobservable items, one of which is stigmatized or incompatible.

Explaining Perceived Network Segregation

While there is a long tradition of scholarship on racial segregation in the United States, recently scholarship has drawn attention to other cleavages of segregation: civic engagement (Skocpol and Fiorina 1999), religiosity and political ideology, among others (DiPrete et al. 2011). DiPrete and co-authors' recent addition to this literature documents perceived levels of segregation in the family, at work, in the neighborhood and in voluntary associations. They measure diversity along lines of socio-economic indicators, race and ethnicity, religious behaviors, family structures and political orientation. They find segregation along these dimensions to be marked, and rivaling racial segregation in magnitude.

DiPrete et al. use data on perceived segregation, that is, respondents report on their perceptions of their own social network. When considering the implications of segregation on outcomes such as respondent's attitudes, then the respondent's perception is precisely the relevant metric. The actual diversity of a social network is the maximum diversity an individual is likely to perceive; individuals will perceive less diversity if secrets are being kept. If network alters believe they will be stigmatized for revealing diversity, they will keep the diversity secret. Then, individuals from whom the secret is kept will perceive less network diversity than objectively exists. An individual's perception of her social network's diversity with regard to stigmatizing characteristics will be biased downward to the extent that individuals are keeping secrets from her. The frequency of secret-keeping is a function of the potential confidant's attitude. In the absence of disconfirming information, individuals assume others in their social

network are like themselves (Goel et al 2010), thus further contributing to the downward bias in perceived social network diversity.

If individuals keep secrets from those who may stigmatize them, then in the aggregate we would expect a gradient in reporting knowing someone who has that stigmatizing characteristics by attitude toward that characteristic. That is, we would expect people who are more accepting of the secret to report knowing more people within that category – whether it be having a mental illness, or being HIV positive, or having had an abortion, among others. We would further expect that people who hold restrictive attitudes regarding that characteristic to report knowing fewer people within that category, controlling for all other factors.

There are three explanations that can explain differences in reporting knowing someone with a stigmatized characteristic by attitude. First, individuals are accurately perceiving segregated networks. That is, people who are lenient toward the characteristic do exist in networks where that characteristic is common and report so accurately; people who are restrictive exist in networks where the characteristic is uncommon and report so accurately. The second, as outlined above, is a result of secret-keeping and selective disclosure. This can happen even within a single network. The third is a result of social influence by the network alters on the ego as predicted by the contact hypothesis.

The contact hypothesis (Allport 1954, Williams 1947) predicts that contact with members of a stigmatized out-group disconfirms stereotypes and promotes tolerance. Hence, the diffusion of information regarding membership in the stigmatized out-group affects attitude formation in the general public. An attitude gradient in knowing someone in that stigmatized out-group can then be explained through this process of influence. It is possible that contact could result in a decrease in tolerance, if say, stereotypes are confirmed or negative stereotypes are created as a

result of the contact. The causal direction here would be the opposite of the secret-keeping explanation; there one's attitude is static and contact is a result – at least in part – of that attitude. Here, contact leads to a change in attitude.

Presumably all three explanations are valid and the importance of each differs depending on the specific stigmatized attribute and the social context. There are large literatures on network segregation and the contact hypothesis. Scholars have paid less attention to the secret-keeping and disclosing process though early work on homosexuality (Herek and Capitanio 1996), HIV status (Shelley et al. 1995) and meat-eating in a vegetarian community (Kitts 2003) are suggestive of selective disclosure.

If secrets are being kept from those who have restrictive attitudes toward them and told to people who are lenient, then two individuals within the same social network will perceive that social network differently. Widespread and systematic secret-keeping distorts the social interaction scholarship has shown to be a central process of influence. This distortion can have wide-reaching implications on individual attitudes, group polarization, the creation of meaning as described in the sociology of knowledge and the formation of estimates and heuristics.

Perceived Population Size

In this inquiry I will examine a possible arena that one would see the implications of channeled secret-keeping: the estimates of population sizes. The availability heuristic suggests that individuals who know someone in a given class – here a woman who has had an abortion – will estimate that class to be larger (Tversky and Kahneman 1973). This is the basis for hypothesis 3.

The literature to date argues that population estimates are negatively correlated to their attitudes toward that population. Alba et al (2005), in examining respondent's estimates of racial

minority and immigrant population sizes in the GSS, show that individuals who estimated a higher population also had more negative attitudes toward the minority population. Alba et al showed this in regards to populations whose defining characteristic is largely visible – racial minorities. When the status in a given group is visible – like race -- it permits individuals who have negative attitudes toward that group to purposively avoid contact. Alba also showed this in regards to immigrant populations; status as an immigrant has more variation in its concealability than membership in racial groups.

When the status is concealable, as it is for abortion, individuals who are opposed to abortion rights cannot conscientiously avoid women who have had abortions. Instead, the woman – and her confidants – control this information and hence whether the intolerant know they have been in contact with someone who has this particular status. I hypothesize a different relationship between attitude and population estimate for this secret and this is the basis of hypothesis 4.

HYPOTHESES

Hypothesis 1: Among concealable items, the more stigmatized it is in the wider community, the slower it will diffuse.

Hypothesis 2: Among concealable items, the more stigmatized the item is, the more likely it is to diffuse along lines of pre-existing acceptance i.e., the confider and confidants will reveal the concealable information to persons most likely not to "punish" the confider for that revelation.

A narrative will further clarify the hypotheses. Being that secrets are concealable, secret-keepers decide whether or not to disclose to others (expose them). Secrets are also stigmatized and not wanting to attract hostility toward themselves or others, secret-keepers reveal the secret only to those whom they believe will be tolerant. As a result of this reaction to stigma, the diffusion slows. Diffusion will also be channeled based on existing attitudes toward the secret. The result will be an attitude gradient in reporting knowing someone who has this secret. This gradient can exist even within the same social network.

Hypothesis 3: Individuals who report knowing a member of the stigmatized, concealable class will estimate that class to be larger than individuals who do not report knowing a member.

Given hypothesis 2, that secrets will be revealed to the tolerant, I anticipate that individuals who report knowing someone in that class will estimate the class to be larger.

Hypothesis 4: The negative relationship between estimating the minority population size and attitude will not exist in the case where the population is concealable and stigmatized.

DATA AND EMPIRICAL STRATEGY: COMPARING ABORTION AND MISCARRIAGE SECRETS

To test the hypotheses, I compare miscarriage and abortion secrets. They are both common events that end pregnancies and are concealable. They differ, importantly, in regards to associated stigma. One in three American women has an abortion in her lifetime and an estimated 1.2 million abortions were performed in the United States in 2005. A quarter of pregnancies end in abortion (Jones et al. 2008). Miscarriage is somewhat less common than abortion but is still highly prevalent. Of recognized pregnancies, approximately 13 percent end in miscarriage (Goldhaber and Fireman 1991)[4]. Women of all sub-populations have miscarriages and an equally diverse population has abortions. Both miscarriages and abortions usually happen early in the pregnancy and given that, both are concealable (Henshaw and Kost 2008). Despite similar prevalences, abortion is much more stigmatized than miscarriage, as will be discussed below.

Women who have abortions have similar characteristics as women generally. For example, just over a quarter of abortion patients are Catholic, as are just over a quarter of

[4] The portion of pregnancies ending in miscarriage is determined by women entering cohort studies in which they take pregnancy tests every week. Given available data, it is impossible to determine how many women have had miscarriages in order to compare it to abortions. Data on repeat miscarriages in the United States is asked retrospectively and there is evidence that this method cannot be trusted (Weinberg et al. 1992, Wilcox & Horney 1984). Based on the most accurate work, Danish women have fewer repeat miscarriages than American women have repeat abortions. It is likely that there are fewer women who have experienced abortions than miscarriages.

American women aged 15-44. Sixty percent of women who have abortions are mothers; 56 percent of women aged 15-44 are mothers. Almost half of women who have abortions are married or cohabiting; just over half of women of reproductive age are married or cohabiting. Fifteen percent of women who have had an abortion attend a religious service at least once a week as do 23 percent of women aged 15-44. The educational attainment of women who have had abortions matches almost precisely the educational attainment of American women aged 15-44 as a whole. There are, of course, some differences. Black and Hispanic women are over-represented among abortion patients, as are women aged 20-30. Women whose family incomes are less than the federal poverty limit are over-represented and women whose family incomes are more than 200% of the federal poverty limit are under-represented (Jones et al. 2010). Nevertheless, the one in three women who will have an abortion by the time she reaches 45 are drawn from all subpopulations of American women.

Despite its widespread prevalence, stigma concerning abortion is dramatic and more severe than stigma around miscarriage. Women are disinclined to disclose their abortion histories (Major & Gramzow 1999) and perceive strong social disapproval in nearly every context (Cockrill & Weitz 2010). The most compelling evidence that miscarriage is less stigmatized than abortion is that women frequently report their abortions as miscarriages to doctors and survey researchers among others (Jones and Kost 2007, Erviti 2004). Further, abortion is seen as a choice whereas miscarriage is not. As such, women who terminate pregnancies are much more likely to have feelings of guilt and shame after the procedure than women who miscarried (Keefe-Cooperman 2005, Broen et al. 2004, Broen et al. 2005). To be sure, some women who miscarry feel a sense of stigma, but it is usually due to interpreting miscarriage as a sign of

infertility around which there is stigma (Miall 1986) rather than the stigma of abortion which can be seen as a sign of the woman's promiscuousness, irresponsibility and immoral character.

As two widespread and concealable items, one of which is significantly more stigmatized than the other, abortion and miscarriage are ideal examples by which to consider the diffusion of secrets. I will look at the micro-process of individual disclosure to understand the macro-process of the diffusion of secret information from its origin at the affected individual to wider society.

Data to test the hypotheses come from a nationally representative survey of American adults collected for this study and a unique dataset collected at an abortion clinic. The survey is a nationally representative sample of over 1600 adults in the United States. Respondents were recruited into a panel of 50,000 by Knowledge Networks (KN) using random-digit dialing (RDD) methods. By joining the panel, respondents agreed to participate in online surveys periodically and were provided internet access and equipment if they did not already have it. As such, this internet survey includes individuals who otherwise would not have participated in internet surveys due to lack of access. Knowledge Networks samples closely match those of traditional RDD surveys and are representative of the United States as a whole (Chiang and Krosnick 2001). KN samples are used extensively in academic and government research including the American National Election Survey and the Time-Sharing Experiments for the Social Sciences. The data are weighted to adjust for known sources of deviation from an equal probability of selection design. To reduce the effects of non-coverage or non-response bias, a post-stratification adjustment is applied using demographic distributions from the most recent data from the Current Population Survey (CPS). All reported results are weighted.

The survey captures how abortion and miscarriage secrets spread by asking American-resident adults four modules on their knowledge of others' experiences of miscarriage and

abortion and then about their experiences of miscarriage and abortion. Each of the four modules is structured to allow comparisons across modules. Respondents are randomly assigned to answer questions about others' abortions or miscarriages first. Having finished a module on one, they then do the other. Women are asked "How many women do you know who have had a miscarriage (not including yourself)?" and men are asked "How many women do you know who have had a miscarriage (not including the mother in a pregnancy if you were the father or you intended to parent the child)?" For the module on others' abortions, miscarriage is changed to abortion. If respondents do know someone, they are then asked to think about the most recent event they knew of and are asked a series of questions regarding that event. They are asked about their relationship to the woman, how they heard about the event, the timing of the event and when they heard, as well as whether they had already known the woman was pregnant when they heard about the event.

After respondents provide details on the most recent event, they provide information on whom they told. They are asked, "Did you tell anyone about this miscarriage (the most recent one)?" Again, for the abortion module, the question is the same but miscarriage is abortion. If respondents answer yes, they are then asked about whether they told anyone in their immediate family; they provide the first names or initials and their relationship. They are then asked an open-ended question: "What are some reasons why you told [import names from prior question, on loop] about the miscarriage? While this may be hard to remember, please be as specific as possible as your response is important for this research." Respondents then proceed to answer the same questions in reference to whether they told any of their close friends and whether they told anyone else.

After providing details on who respondents told, they are then asked questions about from whom they deliberately kept it a secret. This set of questions is directly comparable to the section described above on to whom the secret was told. Respondents are asked, “Is there anyone you usually talk with about personal matters but you deliberately did not tell them about this miscarriage?” This question is changed to refer to abortion in the abortion module. In exactly the same manner as in the module where they outline to whom they told the secret, respondents outline from whom they withheld the information and why.

Having answered questions about their knowledge of other people’s abortions and miscarriages, respondents answer two modules on their own experience with these events. They are randomly assigned to answer questions about miscarriage or abortion first. Again, these modules are structured so as to make comparisons with the other modules in the survey. Respondents answer questions about the most recent event, whom they told and why and from whom they withheld the information. There is a fifth module with standard demographic, network and attitude questions. In it, respondents are asked “Which of these comes closest to your view?” There are then four possible answers provided: abortion should be generally available to those who want it; abortion should be available but under stricter limits than it is now; abortion should be against the law except in cases of rape, incest, and to save a woman's life; abortion should not be permitted at all. Respondents also answer two questions aimed at representing how gregarious they are. The first question is “How often do you spend a social evening with relatives?” with a 7-unit scale ranging from almost daily to never. Another question asks “How often do you spend a social evening with friends?” which has the same scale. Respondents are then assigned a gregariousness index score from 0 to 14 and I then categorize respondents into ‘very gregarious’ ‘gregarious’ and ‘not gregarious.’ Respondents are randomly

assigned to take the demographics module before or after the four modules on abortion and miscarriage.

Under-reporting of abortion is well-documented (Jones and Kost 2007)**.** As is seen below, the reporting in this survey of respondents' own abortion indicates that this survey also suffers from under-reporting. Therefore, these data should not be taken as an indication of the true prevalence of this event. Those who report having experienced a pregnancy loss within a survey are a select group of those who have experienced pregnancy loss. Nonetheless, the data provide insight into the diffusion patterns of these secrets.

The second dataset gives insight into the beginnings of the diffusion of this secret. They are counseling intake forms for over 5,000 women who presented for an abortion in 2008. The forms are a part of routine care at a privately owned, dedicated abortion clinic. The clinic was located in a state that does not mandate parental involvement for minors seeking abortion services. The women seeking an abortion filled out a medical history, other intake forms and a counseling needs-assessment form. The assessment form asks questions designed by the counselor and range from mental health history, attitudes toward this abortion, and responses to any past abortions, among others. Crucial for this study, the women indicated who knows that they are there and whether the confidants supported their decision. These questions reveal the beginnings of the diffusion of this secret.

Demographic information on the patients was obtained from other intake forms. Those data reveal the abortion patients in the clinic are representative of abortion patients nationally but with an under-representation of Hispanic women. This unique dataset sidesteps the under-reporting that is a well-documented pitfall of surveying women about their abortions (Jones and Kost 2007). It avoids this problem in two ways: first, the women have already revealed they are

having an abortion by appearing at the clinic and second, the data collection is not a part of a research agenda but rather routine care.

RESULTS

The survey data show that miscarriage and abortion secrets travel along different pathways and at different rates. Table 1 shows descriptive findings; there are statistically significant differences in knowing about another's miscarriage compared to knowing about another's abortion by nearly all demographic variables. Three-quarters of Americans say they know someone who had a miscarriage; half report knowing someone who had an abortion. Given that miscarriage is less prevalent than abortion, this is a striking difference indicative of a truncated diffusion of abortion secrets compared to miscarriage secrets.

Americans who hold more liberal attitudes toward abortion are more likely to report knowing someone who has had one. Almost 60 percent of respondents who believe abortion should be generally available (40 percent of the sample) report knowing a woman who has had an abortion. Fewer than 40 percent who think abortion should never be legal (13 percent of the sample) report knowing a woman who has had an abortion ($p<.001$). This pattern holds in a multivariate analysis, shown below. The qualitative data provide evidence that this is, at least in part, a pattern that is the result of selective disclosure and secret-keeping. Regardless of respondents' attitudes toward abortion, about 80 percent know someone who has had a miscarriage.

All demographic sub-groups report higher rates of knowing a woman who has had a miscarriage than an abortion. There is some variance in the differences of knowledge across sub-groups. Older respondents are more likely to know someone who has had a miscarriage or an

abortion than younger respondents; women are moderately more likely to know someone who has had these experiences than men. Racial differences are negligible except that respondents who identified as 'other non-Hispanic' are much less likely to report knowing someone who has had an abortion than other racial groups; this category is small, about five percent of the weighted sample. Decomposing the sample by education shows respondents with more education are more likely to report knowing both women who have had miscarriages and women who have had abortions. This relationship is not surprising because well-educated people have larger network sizes (McPherson, Smith & Cook 2001); hence, though any given woman in their network is less likely than her uneducated peers to terminate pregnancies (assuming education-homophilous networks)(Jones et al. 2010; Henshaw & Kost 2008), there are more women in their network. These countervailing forces also explain the patterns of knowing by income. The differences in knowledge by marital status and religion are unsurprising; all sub-groups report knowing a woman who has had a miscarriage more often than they report knowing a woman who has had an abortion. There are almost no differences by whether the respondent is a fundamentalist Christian, by how frequently the respondent attends religious ceremonies or whether the respondent lives in an urban area or by the gregariousness index.

Individuals also report their own experiences with abortion and miscarriage differently. Nearly every sub-group reports higher rates of miscarriage reported than abortion, as would be expected given the existing literature on abortion under-reporting.

[insert Table 1 about here]

Miscarriage secrets are told to more people than abortion secrets and are kept from fewer people than abortion secrets, as can be seen in Table 2. Seventy-seven percent of women and their partners who experienced a miscarriage go on to tell someone else; for each miscarriage

they tell, on average, 2.63 people. Sixty-six percent go on to share their abortion secrets to an average of 1.24 people. As such, for each miscarriage, two people are told initially and for each abortion less than one person is told initially. All these differences are statistically significant.

Miscarriage secrets continue to be spread more frequently and to more people than abortion secrets even after this initial stage. Thirty-one percent of miscarriage secrets are spread whereas only 16 percent of abortion secrets are ($p<.001$). When people did share another person's miscarriage secret, they told 2.73 people on average and when people shared another person's abortion secret, they told 2.22 people on average ($p<.1$). As such, for each person told about another's miscarriage, .85 people were told second-hand; and for each person told about another's abortion, .35 people were told second-hand ($p<.001$).

Not only were abortion secrets told to fewer people than miscarriage secrets, they were kept from more people. Thirty-one percent of individuals who have experienced an abortion specifically avoid telling someone with whom they usually speak about personal matters. If they avoided anyone, they avoid 2.6 people on average. Individuals who experience miscarriage avoid a similar number of people on average but only 7 percent of them avoid any usual confidants. Therefore, for each abortion, .8 people are avoided and for each miscarriage .2 people are avoided at this initial stage. Regarding others' pregnancy loss, 25 percent avoid disclosing an abortion and 13 percent avoid disclosing a miscarriage. More people are avoided for a miscarriage but because fewer avoid anyone at all, overall .47 people are avoided when disclosing a miscarriage and .74 when disclosing an abortion.[5]

[5] The process of secret-keeping and selective disclosure begins even before the pregnancy loss; women are more restrictive in who they tell about pregnancies that will end in abortion than in miscarriage. Sixty percent of respondents who report knowing someone who had a miscarriage say they had already known about the pregnancy while only 24 percent said they knew about the pregnancy in advance of hearing about the abortion. Separate analyses were done on a sample of respondents who knew about the pregnancies in advance of the miscarriage or abortion and on a sample of respondents who did not know about the pregnancies in advance. The same patterns are found as in the sample as a whole indicating this is not due to disclosure of pregnancies.

Table 1 demonstrated that though abortion is a more common occurrence than miscarriage in the United States, more people reported knowing someone who has had a miscarriage than an abortion. Table 2 illustrates how this difference arises – not only are fewer people informed about an abortion, the abortion secret is kept from more people than miscarriage secrets.

[insert Table 2 about here]

Americans more frequently learned about their family members' miscarriages than their abortions as seen in Table 3. Nearly all Americans who experience a miscarriage tell a member of their family while only 74 percent of individuals who experience an abortion do ($p<.001$). Of people who report knowing about someone else's miscarriage, 19 percent are the immediate family of the woman; for abortion this is only 11 percent ($p<.001$). In contrast, it is more common that acquaintances know about an abortion (33 percent) than a miscarriage (27 percent; $p<.01$). It is also more common for a boyfriend or girlfriend to know about an abortion (8 percent) than a miscarriage (3 percent; $p<.001$). It is important to note that given the structure of the survey, this boyfriend was not the man involved in the pregnancy but more likely a boyfriend in a relationship that started after the event. The rates of friends and others knowing are similar for miscarriage and abortion.

Americans also keep their own abortion secrets more frequently than they keep their own miscarriage secrets. Individuals who experience an abortion are more likely to avoid telling close friends or individuals of another relationship than individuals discussing their experience with miscarriage. These differences are large in magnitude but not statistically significant due to sample size. Eighty percent of people keep their abortions or the miscarriages secret from a member of their immediate family.

When discussing others' experiences, respondents are more likely keep abortion secrets from their immediate family than miscarriage secrets. Often these individuals are keeping a secret about one family member's pregnancy loss from another family member, as in a brother who conceals her sister's pregnancy loss from their parents. These secrets are also kept from confidant's family members, as an example, a wife who will not share with her husband the news of her friend's miscarriage.

[insert table 3 about here]

Abortion has a slower diffusion rate than miscarriage, as seen in Tables 1 and 2. Despite similar prevalence rates, significantly more people report knowing someone who has had a miscarriage than an abortion. The couple experiencing pregnancy loss and subsequent confidants and so on along the diffusion process share miscarriage secrets more frequently and to more people than abortion secrets. This all stands in support of hypothesis 1, that among concealable items, the more stigmatized the item is in the wider community, the slower it will diffuse. The slower rate of diffusion is a likely but not an inevitable outcome of the item being stigmatized. Analysis of diffusions of other secrets will be necessary to fully test hypothesis 1. Table 3 indicates that much of this slowing of diffusion happens within families.

Hypothesis 2 states that abortion secrets, being more stigmatized than miscarriage secrets, would be channeled toward individuals who are sympathetic[6]. Table 1 indicated that individuals who had liberal attitudes toward abortion were much more likely to report knowing someone who had had one. Table 4 reports regression results which demonstrate this relationship holds within a multivariate analysis.

[6] Abortion stigma is measured by a statement regarding abortion legality. In a pilot survey of over 300 respondents, I tested a variety of measures of miscarriage stigma, for instance on the causes of miscarriage, the meaning of miscarriage for future fertility and how they would counsel a friend whose girlfriend had had a miscarriage regarding whether this would affect his decision to marry her. Despite many tries, I could not invent a survey question that elicited any variance in responses; respondents did not express stigma toward miscarriage.

[insert table 4 about here]

Americans who are conservative with regard to legalized abortion are much less likely to report knowing someone who has had an abortion than their more liberal counterparts when controlling for a number of demographic and socio-economic factors. Individuals who believe abortion should be legal under no circumstances are 42 percent as likely to report knowing someone who has had an abortion than those who believe abortion should be generally available ($p<0.01$). Those who believe abortion should be legal only in the cases of rape, incest or to save the life of the pregnant woman are 66 percent as likely ($p<0.05$). Holding these attitudes is one of the largest predictors of reporting knowing someone who has had an abortion.

While one's attitude toward abortion is a significant predictor of reporting knowing someone who has had an abortion, a few other variables are significant predictors as well. Older Americans are more likely than younger Americans to report knowing someone who has had an abortion (p-values range from $p<.01$ to $p<.001$). Individuals in the second- highest income bracket are more likely to report knowing someone who has had an abortion compared to the lowest income bracket ($p<.05$). Compared to respondents who are not gregarious, those who are very gregarious are more likely to report knowing someone who has had an abortion ($p<.05$). Men are less likely than women ($p<.001$); Baptists and Jews are less likely than Protestants ($p<.05$; $p<.01$), and respondents who identify they are not evangelical are less likely to report knowing someone who has had an abortion ($p<.01$). Respondents who identify their racial and ethnic status as other, non-Hispanic are less likely to report knowing someone who has had an abortion than white, non-Hispanic respondents ($p<.05$). Education, marital status, urban status of residence and region are not predictors as are most of the sub-categories within race, income and religion.

Abortion patients and subsequent confidants disclose abortion secrets selectively and this helps explain why Americans who are more lenient toward abortion more frequently report knowing a woman who has had one. The women who have abortions at the clinic overwhelmingly disclose to people who are supportive. Over 80% of the confidants are supportive; this figure rises to over 90% when I exclude male partners who are the least supportive group and arguably the group the women may feel most obliged to tell. This far exceeds the 48% of Americans who are pro-choice. This suggests women are sharing their decision to get an abortion selectively; they seek out those they anticipate will support them and avoid those who will punish them. This supports hypothesis 2 that disclosure will be channeled along lines of pre-existing acceptance.

Respondents spread the news of an abortion or miscarriage selectively, telling some and avoiding others. The reasons respondents give to why they told – or did not tell – individuals about miscarriages and abortions illuminate this process. Individuals informed others about a miscarriage and abortion for largely the same reasons. Abortion and miscarriage secrets were kept, however, for quite different reasons.

The most common reasons to tell people of a miscarriage or an abortion – either one's own or another's – is to receive support or because they have an intimate relationship such as being family or close friends. As an example, in explaining why she told a friend about another woman's miscarriage, a respondent writes, "She and the woman are close friends. She is a seminary student with an emphasis on hospital chaplaincy--she could minister to her friend. We could do something together to make the young woman feel better--we shared a quiet meal and listened/chatted about whatever she was feeling." Another explains why she told her sister about her miscarriage, "She is my sister. She did not know that I was pregnant to being with, but the

day after I had my miscarriage, I broke down and told her. As I sat there and cried, she just held me in her arms and just listened. She was the most supportive person that day." A mother wrote how she handled her daughter's friend's abortion; "This girl was our daughter's friend. We love her. We told another friend because she needed to know so she could help."

Abortion and miscarriage secrets are also told as notification. As an example, if the confidant already knew about the pregnancy, they would be notified about its loss. Respondents cite having to explain an absence from work or a family event as reasons for disclosing the pregnancy loss.

[insert table 5 about here]

Abortion secrets are withheld to avoid stigma whereas miscarriages secrets are not. One's attitude toward abortion causally determines whether one is knowingly exposed to someone who has had one. In this regard, the contrast between miscarriage and abortion is stark and illuminating.

Privacy is the most common reason for keeping both miscarriage and abortion secrets as can be seen in Table 5.[7] As an example, one respondent wrote "Judith knows the person who miscarried and would be told by the person herself if she wanted to share information. I do not know if my mom, Judith, knew about the pregnancy or not and if I asked, I may reveal private information." Another writes about not revealing an abortion "The affected person's past decisions are nobody else's business; if she wanted other people to know she is the one to tell them not me." Privacy is about as common a reason for miscarriage and abortion. Some couples reveal their experience to confidants but specifically ask for their secrecy; secrets are kept from 30 percent of potential confidants for this reason for abortion while only 13 percent for

[7] Since secrets are often kept for more than one reason, there may be more than one reason assigned to each explanation.

miscarriage ($p<.01$). This difference is suggestive of the stigma associated with abortion rather than miscarriage.

Explicitly avoiding stigma is a much more common reason for keeping abortion secrets compared to miscarriage secrets. Many secrets are kept – by individuals experiencing the abortion and subsequent confidants – specifically to avoid judgment. Of the people individuals avoided telling about their own abortion, 35 percent were due, at least in part, to avoiding stigma. For miscarriage, that is less than 2 percent ($p<.001$). Of the people confidants avoided telling about another's abortion, 13 percent were avoiding being stigmatized whereas just 2 percent were avoiding stigma for a miscarriage ($p<.001$). One respondent writes about her abortion, "My dad would have been upset with me. He would have judged me. I really love my dad and have a close relationship with him. I did not want him to feel disappointed." Another writes about not telling her mother about her abortion: "She would have been mean and not understanding about it. She would have tried to make me feel horrible. We did not have a relationship of unconditional love; everything with her had a condition....her condition. It was my own problem, I asked her for no help or understanding." Others say "I did not want to affect her opinion of the person involved" or "fear of reaction." Some individuals express a lack of stigma around miscarriage as a justification for sharing the information. As one man writes about sharing the news of a close friend's miscarriage to members of his immediate family, "It's acceptable to talk about miscarriage, a person doesn't look like a killer."

The clinic data and the qualitative survey data indicate that individuals carefully manage abortion and miscarriage secrets. They intentionally share the secrets with those who will be supportive and in the case of abortion to not share with those that could react with stigma to the

information. It confirms hypothesis 2, the more stigmatized piece of information has a channeled diffusion; it travels along lines of pre-existing attitudes.

Given that pregnancy loss is concealable, individuals have the opportunity to manipulate exposure of others. Exposure to a high observability item is a function of item prevalence and the social proximity of a spreader and potential adopter as evident in existing diffusion research. Exposure to a low observability item depends on item prevalence and proximity but also dyad-specific variables such as the reaction the spreader anticipates from the potential adopter. For a low observability item, individuals avoid people who "would have been judgmental" and tell people "who could help." These dyad-specific variables give a pro-life individual a much lower propensity than a pro-choice individual to being exposed to an abortion secret, even controlling for demographic and socio-economic variables. These different propensities exist within the same network, even within the same family and secrets are kept and told accordingly. Each individual then experiences a somewhat different level of diversity within even the same social network and that experience is determined by pre-existing attitudes.

Americans who report knowing a woman who has had an abortion estimate the number of women who have had abortions to be higher than those who do not (see Table 6). This holds in the multivariate analyses as well (see Table 7). This is statistically significant but not substantively significant; the difference is about 3 percentage points. This evidence disconfirms hypothesis 3 which predicted that individuals who reported knowing a woman who has had an abortion would estimate more women to have had one than individuals who did reported not knowing a woman who has had an abortion.

[insert table 6 about here]

[insert table 7 about here]

There is no difference in estimating the prevalence of abortion by abortion attitude, as hypothesized above. The numeracy literature predicted that respondents who held negative attitudes toward abortion would estimate the population to be larger. On the other hand, we anticipated that those with negative attitudes would be less likely to know someone who has had an abortion. The lack of difference between estimates by attitude may be the result of countervailing forces: the effect of attitude on estimate as described by Alba (2005) and the effect of exposure on estimates.

DISCUSSION

Though abortion is a more common event in the United States than miscarriage, more people indicate knowing a woman who has had a miscarriage than an abortion. It is a result of more people disclosing miscarriage secrets and to more people than abortion secrets. Furthermore, there is a strong pattern whereby individuals who hold restrictive views toward abortion are much less likely than their liberal counterparts to report knowing someone who has had an abortion. There are three possible explanations for this pattern: 1) network segregation; 2) contact hypothesis or 3) selective disclosure. Evidence supports all three but stronger evidence supports selective disclosure.

Abortion is a very common event; one in three women will have an abortion and women of all demographic sub-groups have abortions at high rates. While poor and minority women have abortions at disproportionate rates, it is still common among wealthier and white women (Henshaw & Kost 2008). Hence, very few networks exist in which no woman has had an abortion. Network segregation cannot fully explain why only half of Americans report knowing a woman who has had an abortion when over three-quarters report knowing a woman who has had a miscarriage. Nor can it fully explain why people who are pro-choice are twenty percentage

points more likely to report knowing someone who has had an abortion compared to their pro-life peers.

The patterns can also be explained by the contact hypothesis – that respondents were pro-life in time 1, came into knowing contact with an abortion patient in time 2, became pro-choice in time 3 and were surveyed at time 4. Hence, they would appear in survey as both pro-choice and knowing someone who had had an abortion but this would have evolved over time. The survey, however, also shows stability in abortion attitudes over the life-course; eighty-five percent of survey respondents say their abortion opinion has not changed in the past few years. A panel study has also found stability in individuals' abortion attitudes over time (Norrander and Wilcox 1999). This indicates the contact hypothesis is only marginally at play here. Rather, the pattern is likely due to selective disclosure – that is, the contact described in time 2 above, that a pro-life individual comes into knowing contact with a woman who has had an abortion patient, does not happen.

Selective disclosure clearly affects diffusion and helps explain why people with more lenient abortion attitudes report knowing women who have had abortions at higher rates than people with stricter attitudes. Simply put, abortion patients and their confidants share the secret with pro-choice members of their network, avoiding pro-life members. The reasons respondents give for why they avoid telling specific people about an abortion are evidence of selective disclosure as a reaction to anticipated stigma.

The data do not exist to test how much of the trend is due to any of these three explanations, for that one would need full network data over time that includes who has abortions and how that secret is told and kept. In the absence of those data, however, I can assert that the trend whereby pro-life Americans are less likely to report knowing someone who has

had an abortion is due to three reasons – segregation across social networks, the contact hypothesis and selective disclosure. The data presented here illuminate the process of selective disclosure and provide evidence to suggest that it explains more of the trend than network segregation or the contact hypothesis.

This case stands in support of hypothesis 1, that the rate of diffusion for a secret item will likely be slower than a non-stigmatized, private item, but it cannot be completely confirmed. This pattern was seen in the organizations literature and in this interpersonal case of an abortion secret as compared to information about a miscarriage. It is not inevitable, however, that a concealable, stigmatized item will diffuse at a slower rate than a concealable non-stigmatized item; more examples of diffusing secrets from a variety of contexts are required to fully test this hypothesis.

Abortion secrets are channeled to those who will not "punish" due to the revelation. Hypothesis 2 is supported. Secret diffusion proceeds in this manner: an event, behavior or attribute that is concealable also becomes stigmatized. The person the secret regards tells a few people who are chosen because among other things, they will be supportive. Those confidants mostly tell no one else. If they do, they similarly discriminate against people who will negatively judge the person involved. Some of the secret-keepers would like to tell certain individuals but are frustrated in their wish because they do not want to suffer the consequences of that revelation. The result is a dampening of the diffusion rate and the decreased likelihood that people who hold pre-existing negative attitudes toward the secret – in this case people who are pro-life -- will hear the secret.

In an extreme case when the attitudinal boundaries are quite thick – information and people do not frequently move from one chamber to another -- opinion stasis will exist. Some

women's abortion secrets do pierce the attitudinal boundaries – some individuals who are opposed to abortion report knowing someone who has had one. But many secrets stay on the pro-choice side of the boundary. This slowing and channeling of the diffusion of abortion secrets may help explain the continued public opinion stasis on abortion in the United States. In 1999, Gallup reported that 48 percent of Americans identified as pro-choice; in 2011 49 percent did. In 1999, 42 percent of Americans identified as pro-life; in 2011, 45 percent did. The same stasis is evident regarding whether abortion is morally right or wrong though the question is not asked over as long a time span. In 2002, 53 percent of Americans said abortion was morally wrong; in 2011, 51 percent did. In 2002, 38 percent of Americans said that abortion was morally acceptable; in 2011, 39 percent did. This stasis is unusual when compared to many other public opinion issues.

Politicians and social movement actors inundate the public sphere with talk of abortion. Americans, however, are also moved by personal information. One woman explained her opposition to abortion rights increased over the last few years because she knew of "too many instances where abortion was used instead of birth control." Another woman explained her increased support of abortion rights by referencing how seriously individuals approach the decision, "I feel great compassion for women and men who have been in the position to make that choice. It is a very difficult choice, and the parents will not forget the choice to abort. I understand why many choose abortion and am dear friends with many who have had abortions." Individuals can be moved by personal information but that information is precisely what is being so carefully diffused. Individuals' discussion networks influence what information they are exposed to, their attitudes and even their voting patterns (Huckfeldt and Sprague 1995). Perhaps this tendency toward silencing helps contribute to the surprising stasis in public opinion.

The literature on group polarization argues that echo chambers are not places of stasis, rather they become fertile ground for extremism. This has been found across a number of discussion topics and populations from racial attitudes among white high school students (Myers and Bishop 1970), potential jurors deliberating on dollar and punishment awards (Schkade et al. 2000), business students and their spouses discussing a variety of mundane decisions involving risk (Stoner 1968; but see also: Friedkin 1999). Not only do groups make decisions that are more extreme than any individual's preference prior to discussion, the individuals themselves change their viewpoints to be more uniform. That is, there is less variation in individuals' opinions after a discussion with like-minded individuals than there was prior to that discussion. Further, the average opinion after discussion is more extreme than it was prior to discussion (Friedkin 1999). Deliberation among diverse individuals is a bulwark against this extremism but the evidence in this inquiry indicates that these conversations do not happen as often as they could.

I anticipated the pace and channeling of abortion secrets would affect respondent estimates of the size of the population that has abortions. There was no meaningful distinction between the estimates for Americans who report they know someone who has had an abortion and those who report they do not. This, however, does not entail that there are no implications for secret-keeping on population estimates. The availability heuristic would predict that individuals who report knowing a woman who has had an abortion would estimate more women have abortions than individuals who report not knowing a woman who has had an abortion. The numeracy literature demonstrates that individuals who have negative attitudes toward a population estimate that population to be larger. The evidence shown here indicates that for concealable and stigmatized items, contact and attitude are directly related. Hence, individuals who are pro-life would, according to the numeracy literature, estimate the number of women

who have abortions to be larger than their pro-choice counterparts' estimates. The evidence in this article, however, shows that individuals who are pro-choice are more likely to come into knowing contact with women who have had abortions. According to the availability heuristic, individuals who know women who have had abortions should estimate the population to be larger. It is possible that both of these processes are on-going: that pro-life individuals, due to their attitude, estimate the population to be larger than pro-choice Americans and simultaneously, that pro-choice individuals due to their contact, estimate the population to be larger. It is possible that these processes may both occur and off-set each other to result in no meaningful distinction in estimates across those who come into contact and those who do not and by attitude.

CONCLUSION

This inquiry has brought together multiple literatures to make a single claim – stigmatizing secrets limit and channel the diffusion of information away from individuals with negative pre-existing attitudes. Social science is rife with theories on the interdependencies of life – that individuals are influenced by others and rely on those influences to formulate attitudes, reactions, expectations and plans. These theories assume that we live transparent lives, that others observe of us the complete, unadulterated truth. Micro-sociology and common experience tells us this assumption is false. This article is the first in what will hopefully be a long literature looking at the macro-effects of secrecy and stigma management.

I have outlined the implications of secret-keeping for the diffusion of information and perceptions of network segregation. I have shown that stigmatized secrets will travel slowly and along pathways defined by pre-existing attitudes. I have shown this in comparison to a non-stigmatized secret. The influence process integral to social science research has boundaries that

individuals control. Stigma is a reaction to a societal norm – a macro phenomenon – but individuals manage that stigma to mitigate interpersonal damage and to protect their reputations. The result is a preaching to the choir phenomenon whereby stigmatized secrets are primarily revealed to those who will not react negatively.

When stigmatized secrets are revealed selectively to people who will not react negatively then one's attitude toward the secret determines how much diversity one perceives within a social network. A person who views a secret favorably will likely have those secrets told to her and will perceive her social network as more diverse than a person who views a secret negatively and does not hear these secrets. Network diversity is a characteristic of the network but if we are interested in network diversity because we are interested in social influence then for the case of concealable characteristics – mental illness, disease status, sexual orientation, substance abuse history, in some instances immigrant status or incarceration history among others – perceived network segregation is the relevant metric. This metric is not a characteristic of a network but a characteristic of an individual and one that is dependent upon the individual's attitude toward the characteristic.

I explored this theory using the empirical case of abortion secrets in the United States, in comparison to miscarriage. I find evidence for a strongly distorted diffusion process of abortion secrets. The secret travels more quickly and more often to people who are pro-choice, avoiding those who are pro-life. I outline the potential implications for public opinion and drawing on the contact hypothesis and the group polarization literature.

Secret-keeping has implications for the dialectical process of perceiving and creating the social world described by social constructionists as the process that produces the "social stock of knowledge" (Berger and Luckmann 1967) or "socially derived knowledge" (Schutz 1982). I

show that individuals can exist within the same objective world but perceive that world differently and the creation of social worlds through conversation is distorted. This bias and distortion is along lines of pre-existing attitudes.

Future research should empirically test the implications of secret-keeping on social influence with particular attention to public opinion, group polarization and behavior adoption. Another avenue of exploration is to examine the specific ways in which secret-keeping affects knowledge of the social world. A first attempt is presented above in looking at population size. It raises a number of questions about the underlying processes that result in there being no meaningful distinction in the estimates of how many women have abortions. This line of inquiry should be expanded beyond estimates of population size to consider stereotyping processes. Lastly, these analyses should be repeated for other concealable characteristics.

Table 1: Rates of Knowing and Experiencing Miscarriage and Abortion by Demographics and Attitude

	Knew of Others'			Respondent's or Partner's		
	Miscarriage (%)	Abortion (%)	Difference	Miscarriage (%)	Abortion (%)	Difference
Total Sample						
Any Incident	78.52	52.36	***	16.58	11.54	***
Abortion Attitude						
Generally Available	78.88	59.34	***	12.25	18.19	
Stricter Limits	76.12	56.85	***	19.04	14.9	
Rape/incest/life	79.52	46.1	***	21	4.96	***
Not at all	77.99	38.49	***	17.85	1.58	***
Sex						
Female	84.97	44.78	***	20.16	15.16	***
Male	71.56	59.45	***	12.76	7.65	***
Race						
White, Non-Hispanic	80.12	52.43	***	17.87	9.52	***
Black, Non-Hispanic	75.1	59.58	**	21.16	20.5	
Other, Non-Hispanic	74.38	34.27	**	3.83	15.05	
Hispanic	75.44	52.56	***	11.83	11.9	
2+ races, Non-Hispanic	75.34	58.25	*	13.28	19.37	
Education						
Less than HS	71.24	41.64	***	18.55	5.56	**
HS	73.18	44.62	***	19.37	10.7	**
Some College	78.53	59.98	***	15.18	14.43	
College Degree or Higher	87.44	57.68	***	14.15	12.08	
Income						
Less than $15k	71.63	48.72	***	14.32	6.78	*
$15k-$30k	76.6	51.74	***	17.12	13.7	
$30k-$50k	80.69	46.34	***	19.05	8.95	**
$50k-$75k	79.83	46.68	***	17.35	13.77	
$75k-$100k	81.36	56.37	***	16.25	9.55	*
$100k-$125k	76.26	65.71	***	15.86	12.33	
$125k+	80.79	60.89	***	13.51	15.66	
Age						
18-24	61.83	33.59	***	7.36	1.48	
25-34	85.26	52.63	***	14.97	6.06	**
35-44	81.25	58.16	***	22.53	12.71	**
45-54	81.42	64.8	***	18.38	23.69	
55+	76.6	48.24	***	16.07	10.8	***
Marital Status						
Never Married	69.19	45.58		6.45	8.76	
Widowed	81.71	50.68	**	20.08	4.54	*
Divorced/Separated	85.12	63.51	***	27.68	24.01	
Married	82.13	50.89	***	19.02	9.17	***
Living with Partner	70.69	62.49		11.38	17.5	

Religion							
	Protestant	81.32	53.9	***	15.3	10.97	**
	Baptist	77.81	44.02	***	20.15	11.03	**
	Catholic	75.53	52.88	***	15.98	9.37	**
	Jewish	90.31	46.09	***	8.23	14.71	
	Other Christian	80.4	50.03	***	18.42	6.79	
	Other Non-Christian	87.29	65.11		18.41	24.74	
	None	74.89	58.53	***	13.86	17.35	
Fundamentalist/Evangelical[1]							
	Yes	78.82	50.74	***	20.48	9.68	***
	No	78.29	50.47	***	15.13	9.75	***
Religious Service Attendance[2]							
	More Than Once a Week	80.17	52.06	***	17.66	8.95	***
	Weekly	79.8	47.17	***	19.16	8.49	***
	Once/twice a month	81.78	53.33	***	17.09	10.24	*
	Few Times a year	80.26	48.47	***	16.78	8.21	
	Once a Year	75.11	56.54	***	16.14	16.73	
	Never	78.53	55.44	***	13.53	11.29	
Urban							
	Not Metro	82.74	43.27	***	15	9.07	*
	Metro	77.7	54.08	***	16.89	12.01	
Region							
	Northeast	75.57	57.77	***	19.28	13.35	*
	Midwest	77.26	51.02	***	13.77	9.78	***
	South	79.57	49.15	***	18.21	9.35	***
	West	80.36	54.45	***	14.54	15.2	
Gregariousness							
	Not Gregarious	76.6	49.71	***	17.17	11.06	**
	Gregarious	81.45	55.22	***	17.81	13.02	***
	Very Gregarious	80.45	53.74	***	13.88	10.52	

*** p<0.001, ** p<0.01, * p<0.05 (two tailed *t* -tests were used to determine if the rates for miscarriage were significantly different than for abortion)

1 Asked of people who identified as Protestant, Baptist, Catholic and Other Christian

2 Asked of respondents who did not answer 'none' to a question on their religion

Table 2: Comparing Secret Telling and Secret Keeping for Miscarriage and Abortion

	Others' Secrets			Respondent's Secrets		
	Miscarriage	Abortion	Difference	Miscarriage	Abortion	Difference
Secret Telling						
Respondent told secret (%)	31.14	15.85	***	77.31	66.00	+
Mean number of people told	2.73	2.22	+	2.63	1.24	***
Total per event	0.85	0.35	***	2.03	0.82	***
Secret Keeping						
Respondent kept secret (%)	12.71	24.68	***	7.36	31.01	***
If kept, mean number of people kept from	3.66	3.01	*	2.61	2.63	
Total per event	0.47	0.74	***	0.20	0.82	**
N	1275	856		278	179	

*** p<0.001, ** p<0.01, * p<0.05 $^{+}$ p<0.10 (two tailed t-tests were used to determine if there are significant differences between miscarriage and abortion)

NOTE: When male respondents were discussing their partner's miscarriage or abortion, an additional person was added to who was told to account for the female partner telling the male respondent.

If respondents indicated they had told someone but did not provide initials that would indicate how many people were told then they are treated as having told someone but are not contributing to how many people were told. Hence, the mean number are conservative.

Table 3: Disclosure and Secret Keeping of Own and Others' Secrets by Relationship

	Others' Secrets			Respondent's or Partner's Secrets		
	Miscarriage (%)	Abortion (%)	Difference	Miscarriage (%)	Abortion (%)	Difference
Respondent Relationship to Woman						
Spouse	2.19	2.56		--	--	
Immediate family	19.26	11.06	***	--	--	
Boyfriend or girlfriend	3.62	7.9	***	--	--	
Other family	16.57	13.01	*	--	--	
Close friend	14.14	15.86		--	--	
Other friend	16.86	16.68		--	--	
Acquaintance	27.35	32.92	**	--	--	
Total[a]	166.79	99.99				
Source of Information						
The woman	53.04	57.97		--	--	
The partner	7.86	5.12		--	--	
Someone else	39.11	36.38		--	--	
Total[a]	100.01	99.47				
Whom Respondent Told[b]						
Immediate family	86.57	79.95	*	93.91	73.65	***
Close friend	38.82	34.68		54.53	50.18	
Other	10.92	10.34		18.4	21.65	
Whom Respondent Kept Secret From[b]						
Immediate family	54.55	70.4	**	81.36	82.3	
Close friend	44.77	44.54		31.13	53.39	
Other	10.5	19.03		16.88	35.02	

[a] Due to rounding, totals may sum to more or less than 100.

[b] Respondents often told and avoided telling more than one person, hence the percentages for those parts of the table will sum to more than 100.

*** p<0.001, ** p<0.01, * p<0.05 (two tailed t-tests were used to determine significance between abortion and miscarriage)

Table 4: Odds Ratio for a Logistic Regression Predicting Reporting Knowing Someone Who Has Had an Abortion

	Odds Ratio	SE
Abortion Attitude (ref is generally available)		
Stricter limits	1.03	0.21
Rape/incest/life	0.66*	0.12
Not at all	0.42**	0.11
Male	0.49***	0.069
Race (ref is White, Non-Hispanic)		
Black, Non-Hispanic	1.35	0.35
Other, Non-Hispanic	0.42*	0.16
Hispanic	1.11	0.27
2+ races, Non-Hispanic	1.37	0.65
Education (ref is less than high school)		
High school	0.96	0.27
Some college	1.72	0.49
College degree or higher	1.23	0.37
Income (ref is less than $15k)		
$15k-$30k	1.21	0.35
$30k-$50k	1.09	0.31
$50k-$75k	0.97	0.28
$75k-$100k	1.43	0.44
$100k-$125k	2.32*	0.77
$125k+	1.62	0.53
Age (ref 18-24)		
25-34	2.52**	0.79
35-44	3.55***	1.12
45-54	4.46***	1.46
55+	2.24**	0.68
Marital Status (ref is never married)		
Married	0.67	0.25
Widowed	1.42	0.4
Divorced/separated	0.97	0.21
Living with partner	1.70	0.48
Religion (ref is Protestant)		
Baptist	0.56*	0.14
Catholic	1.07	0.22
Jewish	0.28**	0.13
Other Christian	0.79	0.18
Other Non-Christian	1.38	0.57
None	0.65	0.22
Fundamentalist/Evangelical[a]	0.59**	0.12
Urban area	1.31	0.24

Region (ref is Northeast)		
Midwest	0.75	0.16
South	0.79	0.16
West	0.83	0.18
Religious Service Attendance (ref is more than once a week)[b]		
Weekly	0.70	0.18
Once/twice a month	0.89	0.27
Few times a year	0.80	0.22
Once a year	0.92	0.28
Never	1.01	0.32
Gregariousness (ref is not gregarious)		
Gregarious	1.21	0.2
Very gregarious	1.44*	0.27
Constant	0.70	0.42
Observations	1,496	

*** p<0.001, ** p<0.01, * p<0.05

[a] Asked of Baptists, Protestants, Catholics and other Christians

[b] Asked of respondents who report having a religion

Table 5: Frequency of Why Secrets are Kept

	Other People's Secrets		Own or Partner's Secrets	
	Miscarriage (%)	Abortion (%)	Miscarriage (%)	Abortion (%)
Privacy	59.24	51.66	37.5**	42.86
Asked to Keep a Secret	13.04**	28.91	---	---
Avoiding Stigma	2.01***	13.27	2.5***	36.13
Number of People Secret Kept From	299	422	40	119

*** p<0.001, ** p<0.01, * p<0.05 $^{+}$ p<0.10 (two tailed t-tests were used to determine significance between miscarriage and abortion)
Note: The responses can have more than one theme. Some responses are not included here due to not being important to the argument. Hence, the columns would sum to more than one hundred if all the themes were included but here they sum to less than 100.

Table 6: Respondent Estimates Percent of Women Who Will Have an Abortion in Her Lifetime

	Abortion Population Estimate (%)
Total Sample	24.12
Respondent Knows A Woman who had an Abortion	
Yes	25.53
No	22.59
Respondent/Partner had an Abortion	
Yes	31.31
No	23.20
Abortion Attitude	
Generally Available	23.54
Stricter Limits	24.70
Rape/incest/life	23.84
Not at all	25.17
Age	
18-24	28.63
25-34	24.68
35-44	26.48
45-54	23.61
55+	21.59
Sex	
Female	26.74
Male	21.34
Race	
White, Non-Hispanic	20.54
Black, Non-Hispanic	37.94
Other, Non-Hispanic	32.11
Hispanic	27.03
2+ races, Non-Hispanic	25.14
Education	
Less than HS	27.79
HS	26.93
Some College	25.02
Bachelor's degree or higher	18.64
Income	
Less than $15k	26.86
$15k-$30k	29.17
$30k-$50k	24.86
$50k-$75k	23.22
$75k-$100k	22.18
$100k-$125k	19.62
$125k+	20.93
Marital Status	
Never Married	27.58
Widowed	21.89
Divorced	26.16
Married	22.04

Marital Status	
Never Married	27.58
Widowed	21.89
Divorced	26.16
Married	22.04
Living with Partner	25.75
Religion	
Protestant	19.81
Baptist	30.70
Catholic	22.74
Jewish	18.29
other christian	24.19
other non-christian, please sp	23.45
none	25.25
Fundamentalist/Evangelical[1]	
Yes	26.20
No	22.90
Not Sure	24.44
Urban	
Metro	24.62
Not Metro	21.55
Region	
Northeast	23.30
Mid-West	23.13
South	25.60
West	23.39
Service Attendance	
More than once a week	25.10
Once a week	23.33
Once or twice a month	21.97
A few times a year	23.49
Once a year or less	23.97
Never	24.82
Gregarious	
Not Gregarious	25.28
Gregarious	20.60
Very Gregarious	25.31

[1] Asked of people who identified as Protestant, Baptist, Catholic and Other Christian

[2] Asked of respondents who did not answer 'none' to a question on their religion

Table 7: OLS Regression Predicting Abortion and Miscarriage Population Estimates

	Coefficient	SE
Respondent Knows A Woman who had an Abortion	3.20*	1.32
Respondent/Partner had an Abortion	5.16*	2.20
Abortion Attitude (ref is generally available)		
Stricter Limits	1.36	1.93
Rape/incest/life	-0.25	1.73
Not at all	0.64	2.40
Age (ref 18-24)		
25-34	-0.62	2.85
35-44	-1.19	2.82
45-54	-5.27	3.20
55+	-5.05	2.64
Male	-3.26**	1.25
Race (ref is White, Non-Hispanic)		
Black, Non-Hispanic	11.9***	2.82
Other, Non-Hispanic	10.90	5.75
Hispanic	4.23	2.78
2+ races, Non-Hispanic	1.82	4.04
Education (ref is less than high school)		
HS	3.00	2.47
Some College	0.92	2.64
Bachelor's degree or higher	-3.56	2.54
Income (ref is less than $15k)		
$15k-$30k	4.73	2.91
$30k-$50k	1.57	2.49
$50k-$75k	1.17	2.51
$75k-$100k	0.60	2.76
$100k-$125k	-1.73	2.70
$125k+	0.80	2.92
Marital Status (ref is never married)		
Widowed	-0.60	3.48
Divorced	0.59	2.62
Married	-0.54	2.21
Living with Partner	0.07	2.66

Religion (ref is Protestant)		
Baptist	5.81*	2.45
Catholic	2.11	1.82
Jewish	-1.80	3.27
Other Christian	1.05	1.83
Other Non-Christian	-2.00	4.47
None	2.17	3.13
Not Fundamentalist/Evangelical	-1.66	1.73
Urban	2.10	1.74
Region (ref is Northeast)		
Mid-West	0.37	2.12
South	-1.32	1.85
West	-2.17	2.15
Religious Service Attendance (ref is more than once a week)[b]		
Once a week	1.37	2.17
Once or twice a month	-0.68	3.02
A few times a year	1.14	2.59
Once a year or less	2.12	2.66
Never	1.69	3.28
Gregariousness (ref is not gregarious)		
Gregarious	-3.99*	1.55
Very Gregarious	-1.47	1.78
Constant	21.0***	4.83
Observations	1,496	

*** p<0.001, ** p<0.01, * p<0.05

[a] Asked of Baptists, Protestants, Catholics and other Christians

[b] Asked of respondents who report having a religion

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